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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/932,878

08/20/2001

Bruno Acklin

P2000,0171

6826

24131

7590

06/25/2004

LERNER AND GREENBERG, PA
P O BOX 2480
HOLLYWOOD, FL 33022-2480

EXAMINER

TRINH, HOA B

ART UNIT

PAPER NUMBER

2814

DATE MAILED: 06/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/932,878		ACKLIN ET AL.	
	Examiner		Art Unit	
	Vikki H Trinh		2814	

-- Th MAILING DATE of this communication appears on the cover sheet with th correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-11, 15, 16 and 18-20 is/are rejected.
- 7) ☒ Claim(s) 6, 12-14, 17 and 21-29 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>0504</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to because of the following informalities: in line 10 of claim 1, the term “subdiving” should be “subdividing”. Appropriate correction is required.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-5, 7-11, 15-16, 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa (6,479,325) in view of Matsuda et al. (6,281,032).

Ozawa (6,479,325) discloses a method of making semiconductor laser components, which comprises providing a cooling element (30 and 40) having an electrically insulating carrier 31 that is formed as a plate (col. 3, lines 25-30) having a main surface which covered by a metal coating 41 (abstract, line 4; col. 5, lines 21-25); structuring the metal coating 41 to form a plurality of chip mounting areas 30; fitting a plurality of semiconductor laser chips 32,33 on the plurality of the chip mounting areas 30. See fig. 6.

However, Ozawa does not teach that the method includes a step of subdividing the cooling element into a plurality of semiconductor laser components that each include at least one of the plurality of the semiconductor laser chips and a part of the cooling element.

Matsuda et al. (6,281,032) teaches a method of making semiconductor laser components having a step of dicing (col. 7, line 28) the cooling element 42 into laser components that each includes a chip and the cooling element 42. See figs. 14-15.

Therefore, it would have been obvious to one having ordinary skills in the art at the time the invention was made to modify the invention of Ozawa with the step of dicing or subdividing the cooling element, as taught by Matsuda et al., so as to provide individual laser components (see Matsuda et al., abstract, lines 18-21).

As to claim 2, the carrier 31 is an AlN which is a ceramic material (Ozawa, col. 4, line 39).

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As to claim 3, the carrier 30 has a plurality of layers (Ozawa, fig. 2) in which one of the layers is adjacent to the main surface and at least one of the plurality of the layers (Ozawa, fig. 2) that is adjacent to the main surface as an electrically insulating layer 31.

As to claim 4, the carrier is made of AlN and BN (Ozawa, col. 4, line 39).

As to claims 5, 7-8, the chip mounting areas are in matrix form with surface treatment. (See Matsuda et al., fig. 2 and fig. 14).

As to claim 9, metal coating is copper (see Ozawa, col. 4, lines 39-40).

As to claim 10, providing a plurality of pads 32, 33, 3a, 3b with the mounting areas 30, and configuring the laser chips 2a, 2b on the pads (Ozawa, fig. 2).

As to claim 11, the pads are made with AuSn (Ozawa, col. 4, line 50).

As to claim 15-16, soldering 3a, 3b the plurality of chips 2a, 2b. Ozawa, fig. 2). The examiner notes that the term "hard" is relative".

As to claim 18, forming metal surfaces 33, 32 on the carrier 30 and associating the metal surfaces with the plurality of the chip mounting areas (fig. 2 of Ozawa).

As to claim 19, the examiner notes that the cooling element and the laser chips are made of the same materials as those of the present invention. Thus, the properties of the respective thermal coefficient of expansion would be inherently the same.

As to claim 20, the examiner interprets the areas between the chip mounting areas 32, 33 are the weak points. (see Ozawa, fig. 2).

Allowable Subject Matter

5. Claims 6, 12-14, 17, 21-29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is an examiner's statement of reasons for allowance: The prior art of record does not disclose or fairly suggest a method of making laser components that includes the step of performing the structuring step by etching the metal coating; before performing the fitting step covering the plurality of the connecting pads with an electrically conductive adhesive material, forming the weak points by performing a process selected from the group consisting of scatching, milling, and laser ablation, and other steps in the claims.

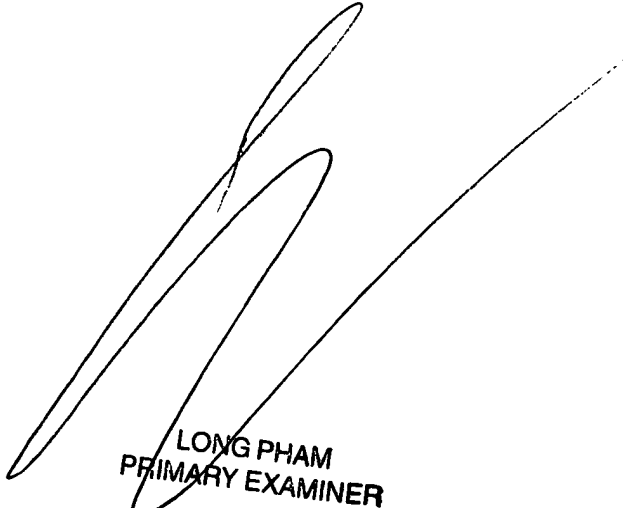
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Conclusion

1. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Vikki Trinh whose telephone number is (571) 272-1719. The Examiner can normally be reached Mon-Tuesday, Thurs-Friday, 7:30 AM - 6:00 PM Eastern Time. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Mr. Wael Fahmy, can be reached at (571) 272-1705.

Vikki Trinh,
Patent Examiner
AU 2814



LONG PHAM
PRIMARY EXAMINER